

NOUS41 KWBC 271515
PNSWSH

Technical Implementation Notice 15-38
NOAA National Ocean Service Headquarters Washington DC
Relayed by National Weather Service Headquarters Washington DC
1115 AM EDT Mon Jul 27 2015

To: Subscribers:
 -Family of Services
 -NOAA Weather Wire Service
 -Emergency Managers Weather Information Network
 -NOAAPort
 Other NWS and NOS Partners and Employees

From: Pat Burke
 Chief, Oceanographic Division
 NOS Center for Operational Oceanographic Products and
 Services (CO-OPS)

Subject: Updating National Ocean Service's Oceanographic
Forecast Modeling Systems: Effective October 6, 2015

Effective October 6, 2015 beginning at 1500 Coordinated
Universal Time (UTC) (11AM EDT), updates of National Ocean
Service Operational Forecast Systems will be implemented on
NOAA's Weather Climate Operational Supercomputing System (WCOSS)
operated by the National Centers for Environmental Prediction
(NCEP) Central Operations (NCO). The updates include ROMS and
FVCOM version updating and shared framework (COMF) updates.
COMF updates include using NCO standard module files and other
enhancements. The details of this implementation are:

1. ROMS version Updates for CBOFS, DBOFS, and TBOFS

The core ocean model currently used for CBOFS, DBOFS and TBOFS
is ROMS3.6 v90 released in 2007, which is no longer supported by
ROMS developers at Rutgers University. The latest ROMS3.7
Version 766, released in June 2015, will replace the ROMS
version 90. Version 766 includes many bug fixes in ROMS version
90 and adds new features.

The horizontal and vertical mixing schemes for tracers are
replaced by Fourth-order Akima advection based on
recommendations of ROMS developers and semi-operational testing
results. A new option of C-preprocessor (CPP) in the surface
heat flux boundary condition subroutine (set_vbc.F) was

developed by Rutgers University to prevent the water temperature decreasing beyond the freezing point of seawater (when a sea ice model is not active). This option was tested by the CO-OPS Modeling team using CBOFS and DBOFS and the expected results were achieved. This option is critical for Cook Inlet OFS (CIOFS), which will be implemented in fiscal year (FY) 2016. There are not major changes regarding hydrodynamics and physics in this version compared with ROMS3.6 version 90. Therefore, the results obtained from using ROMS3.6 and ROMS3.7 are similar for CBOFS, DBOFS and TBOFS. There are no changes of CBOFS, DBOFS and TBOFS products (e.g., file name and contents, deliver time, etc.) for end users.

2. FVCOM version updates for NGOFS, NEGOFs, NWGOFS, and SFBOFS FVCOM version updates will resolve and enhance the following features:

a. Fix the jetty bug in the present FVCOM version used by NWGOFS (vertvl_edge.F) which will currently impact NWGOFS. This bug causes modeled water temperature near jetties to be unrealistically cold for NWGOFS.

b. Resolve repeatability issue, important for FVCOM model failure debugging.

c. Add a new module to calculate heat flux for Great Lakes OFS (mod_solar.F).

d. Add similar feature as in ROMS to prevent the water temperature decreasing beyond the freezing point of water when an ice model is not active.

e. Implement other enhancements required by FVCOM-based Lake Erie OFS implementation.

Gridded and point forecast guidance from parallel runs will be available in netCDF files on the NCEP NOMADS server (para.nomads.ncep.noaa.gov) in the directory:

/pub/data/nccf/com/nos/para/

Graphics products are displayed on the CO-OPS web page at:

<https://tidesandcurrents.noaa.gov/of/dev/{OFS}/{OFS}.html>

Where OFS is cbofs, dbofs, tbofs, ngofs, sfbofs, etc.

For concerning these changes, please contact:

Dr. Aijun Zhang
NOS/CO-OPS
Silver Spring, MD
Email: aijun.zhang@noaa.gov

For questions regarding the dataflow aspects with respect to the
NCEP FTP server, please contact:

Rebecca Cosgrove
NCEP/NCO Dataflow Team
College Park, MD
Email: ncep.list.pmb-dataflow@noaa.gov

National Technical Information Notices are online at:

<https://www.weather.gov/notification/archive>

\$\$

NNNN